shows nevertheless that the part interpreted by Vogt (*l. c.* p. 242, fig. 18) as a coracoid is really a portion of the matrix, so that the structure of the shoulder-girdle, so far as it is preserved, can only be ascertained after this has been removed. All the inferences drawn from this part as to the relations of *Archæopteryx* to Birds and Reptiles therefore fall to the ground.—*Sitzungsb. Akad. Wiss. Berlin*, July 27, 1882, p. 817.

On the Innervation of the Mantle of some Lamellibranchiate Mollusca. By M. L. Vialleton.

The author has investigated the distribution and termination of the nerves in the part of the mantle lining the interior of the shell within the pallial line and the adductor muscles in the genera *Unio* and *Anodonta*. The process adopted was as follows :—The mantle, detached from its adherences in the living animal, was placed for fifteen minutes in lemon-juice, then in a 1-per-cent. solution of chloride of gold, where it was left for at least twenty minutes. It was then put into water acidulated with acetic acid (one drop to 20 gr.), when the reduction is effected in from twenty-four to thirty-six hours. Fragments of the mantle carefully torn can then be examined; or transverse sections can be made of it after hardening.

The portion of the mantle within the pallial line is formed by a lamina of connective tissue, rich in vessels and nerves, and covered on both surfaces with an epithelium of one layer of cells. Transverse sections show that the nerves are not equally distributed in the connective lamina, but more especially in two planes near its two surfaces; some are even placed immediately below the line of implantation of the epithelial cells. In a fragment containing one of these planes examined flat, the fibres are seen sometimes to fork or anastomose in the form of the letter Y, sometimes to cross at the same point, and their elementary fibrillæ form a tangle in which more or less complicated chiasmata are distinguished.

The fibres thus constitute an irregular network, with nodal points of very variable form. The arrangement occurs on both surfaces of the mantle; but the two planes communicate by fibres situated in the thickness of the connective lamina, and really form only a single plexus.

Each superficial plexus gives off finer fibres, which either originate directly from the large nerves of the plexus or, after the exhaustion of the latter, by repeated ramifications. These fibres finally divide into unifibrillar elements, which unite and anastomose in a thousand ways to form a plexus with very close meshes. It is *subepithelial*, for it persists when the epithelium is removed, but is more superficial than the one from which it originates.

Thus in the mantle of *Unio* and *Anodonta* the nerves form a plexus perfectly analogous to that seated in the connective tissue of the cornea beneath Bowman's lamina. It forms a very delicate nervous apparatus, which, being closely applied to the interior of the shell, may receive any shocks communicated to the latter, and transmit the impression of them to the animal. This arrangement is probably general among the Lamellibranchiata.—*Comptes Rendus*, September 4, 1882, p. 461.